

Haixin showed the tune plot generated by Kevin with MAD for the cases with and without the pol. tune quads. The working points achieved last run by Keith for  $\nu_x \sim 8$  and calculated by Nick for  $\nu_{x,y} \sim 9$  are added to the plot. It shows that adding pol. quads gains us higher horizontal tune with vertical tune fixed around 9. The needed radius shift to move horizontal tune close to 9 is smaller than what Keith achieved last run. Leif pointed out that since we use the horizontal chromaticity as the level to move the horizontal tune, the tune spread may be an issue.

Leif updated the modeling effort. The model player is aimed to provide beta functions at correction dipoles, IPMs along the ramp. The time grid on the ramp is still under discussion. One of the goals is to predict the tunes with the currents in dipoles, quads, sextupoles, along with the radius information. Kevin has a separate website to maintain the minutes and presentations on the modeling meetings.

Alfredo reported that the bug has been found and the spin tracking is not affected by the ending energy anymore. It was found that the same variable name was used for two different variables in a subroutine. He will also continue the check of the synchrotron motion part by checking if the bucket shape is correct during acceleration. He also warned that keeping the orbit  $(x, x', y, y')$  constant when updating lattice files at certain energies may not give stable orbit as the vertical tune is fairly close to integer. He uses Courant-Snyder invariable as constraint to “smooth” the orbit when change the lattice files, instead. The SPINK will be checked for both methods.

Haixin reported that there is no spare bipolar power supply which is our first choice for running the I10 solenoid. Ioannis is going to use the 5000A power supply for the solenoidal snake first. It is an unipolar power supply. The power supply may not need water cooling at 750A level. Woody is looking into the magnet cooling issue.

Haixin